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SOME CLINICAL FEATURES OF DISEASES OF THE GALL-BLADDER AND BILE DUCTS DUE TO GALLSTONES, AND THE INDICATIONS FOR THEIR SURGICAL TREATMENT.

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SOME CLINICAL FEATURES OF DISEASES OF THE GALLBLADDER AND BILE DUCTS DUE TO GALLSTONES, AND THE INDICATIONS FOR THEIR SURGICAL TREATMENT.*

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During the last five years there have been great advances in our knowledge of cholelithiasis and its complications. We are beginning to recognize that many cases of indefinite gastric and intestinal symptoms are really due to diseases of the gallbladder, and medical opinion is travelling along the same road that it did a decade or so ago in the case of the vermiform appendix, when a large number of irregular intestinal symptoms were finally recognized as being caused by disease of that organ. The indications for operative interference have also been much extended, but there is not, as yet, a full agreement on the limitations of medical and the indications for surgical treatment. The following short paper is based upon cases, seen upon the second surgical service of Dr. Lilienthal, at the Mount Sinai Hos-

* Read at a meeting of the Harlem Medical Association, May, 1903.

pital, and in my private practice, during the past two years.

The gallbladder shares the fate of the stomach, the bladder, the pelvis of the kidney, and the vermiform appendix. So long as there is nothing which prevents these organs from emptying themselves of their contents, they are very apt to remain normal; lack of the power to do so is often followed by infection and inflammation.

In the case of the appendix the best surgical treatment is the removal of the diseased and useless organ, if possible, and medical men are becoming more and more convinced that the interval between the diagnosis of appendicitis and an operation must often be a very short one. The question might well be asked, Why not remove the gallbladder early? The body can do perfectly well without it; the removal of the organ at an early stage of disease will prevent recurrent attacks, the danger of a possible severe attack, the possibility and probability of the passage of stones from the gallbladder into the common bile duct with its increased dangers. It will do away with the well-known tendency to carcinoma of the gallbladder in later life. Some writers (Riedel, Park, Winiwarter) believe that cholecystectomy should always be done early, in most cases soon after the first symptoms of stone in the gallbladder. While few will agree with them in this extreme—and up to the present time unjustified—view, most operators are beginning to believe that the indications for the removal of the gallbladder should be much extended.[1] The mor-

[1] It need hardly be mentioned that cholecystectomy should never be done unless the common bile duct is patent or has been rendered patent.

tality from primary cholecystectomy in acute disease of that organ is as small as that of cholecystotomy and drainage, and in disease limited to the gallbladder and cystic duct, is no larger than that of appendicectomy in acute appendicitis. Thus, twenty-four cholecystectomies for uncomplicated acute or chronic disease were done on the second surgical service of Dr. Lilienthal, at Mt. Sinai Hospital, during the past eighteen months without a death.

The cases upon which this paper is based are arranged in the following classes:

I. *Cases Seen in the First Mild Attack.*—In these patients the indications for surgical treatment are very limited. If the symptoms are of mild character, and very slight or no symptoms of peritoneal irritation appear, medical treatment is usually indicated. Very few of these patients are seen by the surgeon, most of them remain in the hands of the internal practitioner. Under medical treatment the attack usually yields, the inflammation in the gallbladder subsides, the stones—if present—either pass into the intestine, or (in about 70 per cent. of the cases) remain in the cystic duct or drop back into the gallbladder and remain quiescent, and the swollen gallbladder disappears. Probably 10 per cent. of these patients remain permanently well. Jaundice occurs in less than one third of the cases, and when present is due to the inflammatory swelling of the mucous membrane of the common bile duct. In many of these patients we used formerly to diagnosticate their trouble as gastric or intestinal colics, but we now recognize them in their true light as gallstone colics.

II. *Cases Seen First in a Subsequent Mild Attack.*—Some patients are seen in a mild attack and give the history of having had a large number of mild attacks in some of which they perhaps passed a small stone or several stones. In these cases it is allowable to wait a long time before recommending surgical interference—especially if the intervals between the attacks are considerable and the patient is able to follow out the medical treatment prescribed for him. Cases of this class most often remain under the care of the internist, but the surgeon will see quite a number of these patients, will be asked as to the advisability of an operation, and will often have to give the weight of his opinion against operation. Although we know that it is very possible that the patient will have further and more severe attacks in the future, we must advise delay, as it is perfectly possible that in this last attack the stone was passed, and that the patient will thereafter remain perfectly well. The time may not be far distant, however, when most cases of this kind will be promptly and permanently cured by the removal of the gallbladder.

III. *Cases with Repeated Severe Attacks.*—In a third class of cases the attacks of colic or pain are so frequent that the patient is either incapacitated from doing his work or the general health is markedly affected. In these patients the frequent use of morphine may be necessary, and there is the danger that a drug habit may be acquired. Cholecystectomy is the operation of choice, and by the removal of the organ every advantage will be gained that is to be obtained by the removal of a diseased

appendix vermiformis giving rise to recurring attacks of appendicular trouble. The following case is an example:

CASE I.—H. C., married, mother of eleven children, admitted to the second surgical service of Mt. Sinai Hospital on September 19, 1902, with a history of frequent attacks of pain in the right hypochondriac region for the last thirty years. For one year the attacks had occurred every few weeks and were sometimes accompanied by jaundice. The patient had become a chronic invalid. The last attack was of two days' standing. The gallbladder was enlarged and very tender, there was slight icterus T., 102.2° F.; P., 98. Operation was recommended, and at the operation I removed a very large and thickened gallbladder containing four large and numerous small stones. The patient made a rapid and uninterrupted recovery and has remained well up to the present time (May 1st).

IV. *Prolonged Cases with Sudden Change of Character.*—In some patients the disease runs the course of a mild attack for a few days, but the symptoms are prolonged until they gradually or suddenly change their character. The fever remains more or less continuous, the tenderness over the gallbladder becomes more marked, the pulse begins to rise, and signs of invasion of the peritonæum appear. In these patients it is sometimes difficult to differentiate the disease from acute appendicitis. There is a rapid pulse, more or less fever, marked rigidity of the right rectus muscle or of both recti, pain and tenderness along the right side of the abdomen—perhaps below the level of the umbilicus—vomiting, etc. These cases always require early operative interference. The gallbladder and more or less of the

cystic duct will usually be found to be much diseased; these organs may contain a greater or less number of calculi, and thin or thick infectious bile or more or less purulent fluid. The walls of the gallbladder may be the seat of a variety of pathological changes, from slight inflammatory thickening to localized or extensive necrosis of the mucous membrane or of the entire walls of the organ. There are usually fresh adhesions to the neighboring structures—pylorus, duodenum, hepatic flexure of the colon. The following is the history of a case of this class:

CASE II.—R. H., admitted July 19, 1902, discharged August 23, 1902. For four days patient, a very stout woman, had had severe colicky pain in the region of the gallbladder without jaundice. It was her first attack of this kind. She had a severe chill a few hours before her admission to the hospital. On admission, T. 101.4° F.; P. 128; a large distended and very tender gallbladder was to be felt; the right rectus muscle was distinctly rigid; there was slight tenderness over the entire right side of the abdomen. Operation was done at once, and a large distended gallbladder, with numerous deep ulcerations of the mucous membrane and with a large calculus in the cystic duct, was removed by me. The patient made a rapid recovery and was discharged cured about four weeks after the operation.

If operation is delayed in these cases, perforation of the gallbladder may occur with formation of a pericholecystic abscess, perforation into one of the neighboring organs, or rupture into the general peritoneal cavity with resulting peritoneal infection, or infection of the liver itself. The clinical history

of the following case shows that the patient should have been referred to the surgeon much earlier than was done:

CASE III.—Fanny H., admitted to hospital and operated on April 13, 1903, in her third attack of gallstone disease of three weeks and a half's standing. For two and a half weeks the disease had run the course of a mild cholecystitis with occasional slight rises of temperature and without jaundice. One week before admission, the pain had become more severe and continuous, the fever remained continuous, and the patient had begun to look bad. Two days before admission, the abdomen had become distended and generally tender, the pulse had become more rapid, and the patient had begun to vomit. She had several chills followed by sweating. On admission, T. 102.8° F.; P. 130; abdomen much distended and very tender and rigid; liver enlarged to percussion and palpation; tenderness most marked in the right hypochondriac region where a small mass was to be indistinctly felt. At the operation, I found the gallbladder gangrenous and perforated, there was an abscess between the organ and the colon, which contained two large calculi, there was a communication between the gallbladder and the second portion of the duodenum. As the poor condition of the patient did not allow of extended manipulations, the calculi were removed and the abscess drained. During the first twelve hours, the patient's condition remained very poor. Improvement then began and continued. The communication between the gallbladder and the duodenum was closed at the expiration of six weeks.

V. *Patients with a Persistent Biliary Fistula from a Previous Operation.*—In these cases there is a discharge of either bile or mucus from the fistula. If the discharge is mucous, the persistence of the

fistula generally means persistent disease of the gallbladder or cystic duct, perhaps with obliteration of the cystic duct or obstruction of the same by a large calculus. If the discharge is biliary and there are clay-colored stools, there is probably a common duct obstruction; if the discharge is biliary but there are no clay-colored stools, there is persistent disease of the gallbladder or bile ducts. Although some patients will get along very well for considerable lengths of time with a biliary fistula, the discomfort from the continuous discharge is always very great, and the general health will suffer sooner or later. Hence—unless there are special contraindications—a biliary fistula which refuses to heal in spite of all treatment requires surgical interference. The operation that usually has to be done is removal of the gallblader and the calculus in the cystic duct, if there is one, or removal of the common duct stone by choledochotomy and drainage, perhaps with removal of the gallbladder. It need hardly be mentioned that the foregoing remarks do not refer to those cases in which the biliary fistula is due to malignant disease of the bile passages or head of the pancreas, or where the fistula has been made as a therapeutic measure in chronic interstitial inflammation of the head of the pancreas (Mayo Robson).

In one patient with a persistent fistula, I removed the gallbladder after dividing a large number of adhesions in which the organ was enveloped. Recovery from the operation was prompt, but the patient's family physician tells me that the patient has occasional attacks of pain in the gallbladder region,

due to the adhesions. In a second case the fistula was due to a stone in the common bile duct; here the stone was removed by choledochotomy with drainage and the gallbladder was extirpated. The patient was a very stout woman; she died suddenly twenty-four hours after the operation from cerebral embolism.

VI. *Cases with Adhesions Between the Gallbladder and the Neighboring Organs Not Due to Disease of the Gallbladder.*—About one year ago I had occasion to operate upon a patient whose symptoms pointed toward chronic obstruction of the common bile duct. At the operation, the obstruction was found to be due to adhesions between the gallbladder and the anterior wall of the stomach. As the gallbladder appeared to be normal, the adhesions were simply divided between ligatures and the abdomen closed. The patient was well when last heard from—about six months after the operation.

VII. *Cases of Calculous Obstruction of the Common Duct.*—Thus far, mention has been made of only a few phases of disease of the gallbladder and cystic duct due to calculi. When the stone passes into the common bile duct, conditions at once become more serious, unless the stone passes through the common duct into the intestine. The stone may remain quiescent in the common duct for a long time, but this is not so apt to occur as with a stone in the gallbladder, for the continual passage of bile along the duct is a constant disturbing factor. The calculus may, on the other hand, cause a chronic obstruction of the common bile duct with the char-

acteristic symptoms of colic, enlargement of the liver, jaundice, and clay-colored stools.

If the symptoms of obstruction of the common bile duct are acute, it is always advisable to treat the patient medically for at least from one to two weeks unless symptoms of sepsis or peritoneal infection appear. The obstruction may be mainly due to the traumatic inflammatory swelling of the mucous membrane of the duct. As soon as the swelling has decreased, the passage of the stone into the intestine may become possible. Or the stone had already passed through the duct, and the symptoms are due altogether to the inflammatory swelling of the common bile duct. If a case of this kind were operated upon, nothing would be found as a justification for the surgical interference.

In the majority of instances, the clinical picture of chronic obstruction of the common bile duct is quite different from that of obstruction due to neoplasm. The liver is usually enlarged and the gallbladder contracted and not palpable. Slowly increasing jaundice with a painless onset—especially if accompanied by ascites—must always give rise to the suspicion of new growth of the liver, bile ducts, or head of the pancreas. In common bile duct obstruction by stone, the operative indications are the removal of the stone or stones by incision of the common duct with drainage of the ducts, and treatment of the gallbladder according to the general principles previously mentioned. It is advisable to drain the common and hepatic ducts in most instances, as small stones might otherwise be left behind (Kehr).

Conclusions.—The space allowed this paper has

necessitated the mention of only a few phases of gallstone disease, hence many points of importance have been omitted. I have attempted to bring out the questions in therapeutics most often encountered, and have attempted to formulate the indications for medical and for operative treatment. These indications might be summed up as follows:

No operation should be performed in

I. Cases with mild symptoms, especially if the diagnosis is in doubt.

II. Cases with recurrent mild attacks with long intervals of health.

III. Acute obstruction of the common bile duct.

IV. Any disease which would contraindicate a surgical operation of any kind unless under vital indications.

Operative interference is *indicated* in

I. Acute inflammatory diseases of the gallbladder with signs of severe infection or peritoneal invasion.

II. Cases with very frequent mild attacks, which incapacitate the patient from work, which are accompanied by much loss of flesh and strength, or in which the patient is in danger of acquiring the morphine habit.

III. Persistent biliary fistula.

IV. Rare cases in which the symptoms are due to adhesions of the normal gallbladder to neighboring organs.

V. Chronic obstruction of the common bile duct.

It is probable that, in the future, medical men will agree upon more early and more radical treatment of many cases of gallstone disease, and that the re-

moval of the gallbladder—the *fons et origo* of gallstones in the vast majority of cases—will be done more often. The indications for cholecystectomy will hence be much extended, and operations upon the common bile duct become of necessity less frequent.

MADISON AVENUE AND SIXTY-THIRD STREET.